

INCREASING INCOMES FROM IRRIGATED RICE PRODUCTION THROUGH MULTILEVEL AND MULTIDISCIPLINARY APPROACH: THE CASE OF THE REPUBLIC OF INDONESIA WITH THE INTEGRATED PARTICIPATORY DEVELOPMENT AND MANAGEMENT IRRIGATION PROJECT (IPDMIP)

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TABLE OF CONTENTS

1.	ABSTRACT	1
2.	. INTRODUCTION	2
3.	. CONTEXTUAL INFORMATION	4
4.	. PROJECT DESCRIPTION	8
	4.1. BACKGROUND	8
	4.2. COMPONENTS DESCRIPTION	10
	4.2.1. COMPONENT 1: Strengthened Policy and Institutional Frameworks for Irrigated	
	Agriculture	10
	4.2.2. COMPONENT 2: Improved Irrigation System Management	11
	4.2.3. COMPONENT 3: Improved Irrigation Infrastructure	12
	4.2.4. COMPONENT 4: Increased irrigated agriculture incomes	12
	4.2.4.1. SUBCOMPONENT 4.1: Improved farm productivity and services	12
	4.2.4.2. SUBCOMPONENT 4.2: Improved market access and services	13
	4.2.4.3. SUBCOMPONENT 4.3: Improved financial access and use of services	13
	4.3. IMPLEMENTATION	14
5.	. METHODOLOGY	16
6.	. FIELD PRACTICUM RESEARCH PROPOSAL SUMMARY	17
7	PROJECT STATUS AT ARRIVAI	18

	7.1.	BASELINE	9
	7.2.	DATA COLLECTION	9
	7.3.	FINANCING MECHANISMS	21
	7.4.	BUDGET DISTRIBUTION	22
	7.5.	EVALUATION SYSTEM	25
	7.6.	FOLLOW UP PROCEDURES	26
	7.7.	RECOVERY PLAN	27
8.	AN	ALYSIS AND RECOMMENDATIONS	28
	8.1.	ENHANCING THE DATA COLLECTION SYSTEM	28
	8.2.	PHYSICAL PROGRESS MEASSUREMENT	31
	8.3.	DETAILED CONTROL OVER ACTIVITIES	32
	8.4.	SPECIAL FOCUS ON LOW-BUDGET DISTRICTS	33
9.	IMI	PLEMENTATION RISKS AND OTHER ACTIONS TO CONSIDER 3	34
10	. С	CONCLUSIONS	37
11	. Е	BIBLIOGRAPHY4	10

LIST OF ABREVIATIONS

AAEHRD Agency for Agricultural Extension and Human Resources Development

ADB Asian Development Bank AWPB Annual Work Plan and Budget

BAPPENAS National Development Planning Agency DGRD Director General of Regional Development

DGWR Director General of Water Resources

DPIU District Planning and Implementation Unit
DWRD Director of Water Resources Development

FFS Field Farmer Schools
GOI Government of Indonesia

IFAD International Fund for Agricultural Development

IPDMIP Integrated Participatory Development and Management Irrigation Project

KPI Key Performance Index

M&ES Monitoring and Evaluation System

MH Man-Hours

MoA Ministry of Agriculture
MoF Ministry of Finance
MoHA Ministry of Home Affairs

MoPWH Ministry of Public Works and Housing

NGO Non-Governmental Organization

NPIU National Planning and Implementation Unit NPMU National Planning and Management Unit

NSCWR National Steering Committee on Water Resources

OGA On-Granting Agreement

PIM Project Implementation Manual

PPIU Provincial Planning and Implementation Unit

PPL Extension Workers

PPP Public Private Partnerships

SC Sub-Component

SDG Sustainable Development Goals

WUA Water User Association

1. ABSTRACT

The government of Indonesia, in partnership with the IFAD and the ADB, is implementing the Integrated Participatory Development and Management Irrigation Project (IPDMIP), which is aimed to boost agricultural productivity, reduce rural poverty, promote gender equity, and improve nutrition through four components: strengthened policies and institutional frameworks, better irrigation systems management, improved irrigation infrastructure, and increased incomes for the smallholders. The project is using a multilevel (national, provinces, and districts) and multidisciplinary (various ministries) approach to execute the activities, but unfortunately is not delivering the expected results. This work focuses on component 4, the one financed by IFAD, that currently is at its third year of execution and is facing major implementation problems due to the vast scope, difficulties in the data collection, with the financing mechanisms, the distribution of the budget, and the evaluation system. After a total immersion in the implementation unit, meetings with the participation of provinces and districts, and the lecture of the latest reports, four recommendations based on easing the implementation by giving tools at the district level and focus on certain areas. The recommendations are expected to improve the implementation prior the mid-term meeting scheduled in the first semester of 2020. In addition, an identification of risks that the project shall address has been carried out to complement the analysis performed. It is important to say that no recommendation had the chance to be implemented to see if there were contrasting results during the field practicum research; nonetheless, if implemented by the project, a positive impact is envisaged.

The project has immense opportunities overcome the impasses is has had; however, it is important to understand that hard work is needed and the leaders at the national implementation unit need to supervise and push the group to get the expected results.

2. INTRODUCTION

In the pursuit of Sustainable Development Goals (SDG), governments, NGOs, and international and national agencies, among others, play a key role. Their interaction and complementarity shall be enhanced in order to achieve good performance in delivering instruments to the people, so they can increase their incomes and welfare while the environment is respected. The Government of the Republic of Indonesia (GOI), in partnership with the International Fund for Agricultural Development (IFAD) and the Asian Development Bank (ADB), are implementing the Integrated Participatory Development and Management Irrigation Project (IPDMIP), an ambitious project aimed to boost agricultural productivity, reduce rural poverty, promote gender equity, and improve nutrition through four components: strengthened policies and institutional frameworks (1), better irrigation systems management (2), improved irrigation infrastructure (3), and increased incomes for the smallholders (4), who are the main target of the project. Approximately 900.000 households comprising 4.400.000 beneficiaries, in an area of 450.000 Ha across 16 provinces and 74 districts are the target of the project, emphasizing in the most marginal families (IFAD, 2019).

A challenge for this project is the chosen approach for its execution, where multilevel (national, provincial, and district) and multidisciplinary (ministries of planning, public works and housing, finance, agriculture, etc.) interactions are meant to happen (see table 1 for a scheme). However, their flow processes and communications remain at the same level and with a silo-like setup, which is a constraint for the implementation units of the project. In addition, the project since its design phase focuses on the high interdependence among the four components for sustainable results (see figure 1), and the importance of regular feedback among the different National Planning and Implementation Units (NPIU), considering that they run the project together.

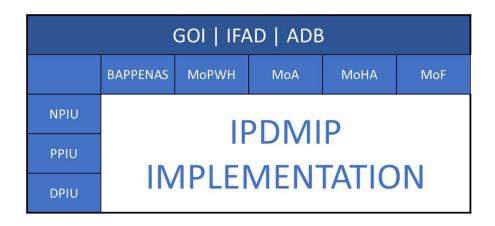


Table 1: Multilevel and Multidisciplinary implementation of the IPDMIP. Source: Self-elaboration

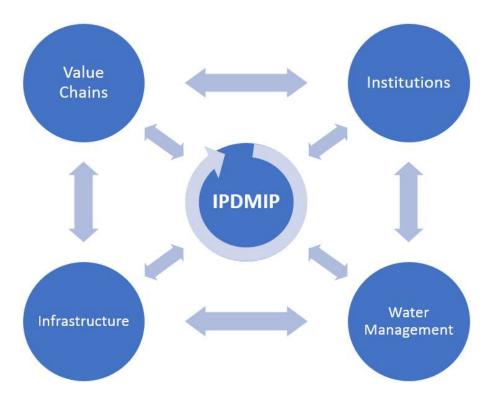


Figure 1: Integration of the components in the IPDMIP. Source: self-elaboration based on (IFAD, 2015)

As only component 4 is financed by IFAD and the field practicum was carried out in its NPIU,
this document analyzes the procedures with a special focus on the monitoring and evaluating
system (M&ES) for that component, due the fact that it has presented considerable difficulties in
its implementation; and therefore, in the assessment of the performance of the project. The report
jointly considers academic sources, professional knowledge, and in-field experience for the

analysis, recommendations, and conclusions. Additionally, a comparison with the Research Proposal for Field Practicum dated April 24th, 2019 (see exhibit A) has been conducted to show changes required by the project during the field practicum.

Component 4 includes three subcomponents (SC): Improved farm productivity and services (1), Improved market access and services (2), and Improved financial access and services (3). Throughout its implementation, the IPDMIP has faced many difficulties, and considering that 2019 is the third of six years of execution, actions must be taken to drive the project to a good ending. The 2018 annual report shows that SC 1 is at 29.23% of progress, SC 2 at 9.02%, and SC 3 does not show any progress information (NPIU AAEHRD, 2019a), which is a poor result that reinforces the idea that procedures should be evaluated and modified to improve the implementation. An enhanced monitoring system would allow the team to take proper steering actions opportunely, assuring that welfare is delivered, that the project will keep running even after its finalization, and that SDGs are achieved.

Considering the aforementioned, the recommendations in this document are oriented towards delivering tools to the different parties involved in the project to give them more control over the activities they carry out, as well as the way they collect the data, communicate information, and manage risks in the implementation.

3. CONTEXTUAL INFORMATION

The Republic of Indonesia is a country full of contrasts and diversity. It is the major economy of South-East Asia with a GDP of 1.042 Trillion US dollars as of 2018, poverty has been reduced

from 46.3% in 1998 to an impressive 7.1% in 2017¹ (World Bank, 2019), there is more confidence and support for private investments, better infrastructure, increasing scholar enrollment, more projects and programs for rural areas and agriculture, among others (OECD, 2018). However, there are still many points in government's agenda that need to be addressed properly to deliver to the population better living conditions. Issues like corruption, governance, more economic growth and quality employment and environmental policies (World Bank, 2018b) are just few of the constraints to achieve Sustainable Development.

The country has over 16.000 islands (The Jakarta Post, 2017), approximately 300 ethnic groups, and almost 270 million inhabitants², out of which 56.2% live in Java and 21.9% in Sumatra (BPS, 2013). This is a dramatic uneven distribution across the land, that results in problems such as overpopulation in some areas, and lack of facilities in others, where unemployment, poverty, and lack of infrastructure are more evident, forcing people to migrate to more economic-densified areas looking for better life conditions. As result, the rural areas are abandoned even when they are one of the main economic drivers for Indonesia's development.

With the objective of improving the delivery of welfare, the GOI instituted since 2001 decentralization policies arguing that people directly in the territories know better the situation than the Central Government, so it could be possible to have territorial-specific programs for better social conditions, stimulate the local economy, and have a visible local political representation. Supporting this idea, the Central Government expends around a 53 percent of the budget at the subnational levels, which has led to better-quality services and life conditions over

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¹ This data considers poverty when incomes are below 3.2 USD/day

² Estimated population for 2018

the last 20 years; nonetheless, politic capture by elites, cultural diversity, and lack of capacities at local government levels have undermined the purpose of this instrument (World Bank, 2017). In general, the overall effect of decentralization is poor considering the large amounts of resources allocated (Pepinsky & Wihardja, 2001). Additionally, the performance at the local authorities is generally deficient (Suharyanto, Sutaryo, Mahullete, Meiria, & Supriyono, 2018)

The results at the Local Government levels diverge from those at the Central level. As said before, Indonesia has improved notoriously in many aspects, especially in economic growth (even if more is still needed). Since the 1980s, the economy of the country became highly dynamic due to the export of commodities, as a matter of fact, the average GDP growth from 1986 to 2018 was 5.07% even considering the economic crisis of the late 1990s (World Bank, 2019), which is an outstanding result that shows the strengthened competitiveness of Indonesia (World Bank, 2018a). The export of only three products (coal briquettes, palm oil, and petroleum gas) account 24.4% of the total of the total exports, and the principal commercial partners are other countries in the region, United States and Europe (OEC, 2017). Even though there is still dependence on resources, Indonesia is moving forward to a services economy, with also an important growth of manufacturing and construction (ATKEARNEY, 2018).

The trend toward an industrial and service economy is a key factor for development in the coming years; nevertheless, the old practices related to commodities still have a footprint in the country's activities. The high pressure on the environment caused by natural resources' extraction, industrial activities, and oil palm plantations is reflected in high deforestation rates, extreme weather events, and pollution in the main cities, among other factors. Regular floods, droughts and fires are some examples of a poorly designed environmental policy worsened by climate change, in fact, according to World Bank Group (2011) the country is highly vulnerable,

especially on Java island. Other impacts include the rise of average temperature, increase of rainfalls, and changes in seasonality. Considering that more than a half of Indonesia's population live on this island, actions against climate change are needed, and the approach of policies and projects must include strong sustainability components.

The GOI acknowledges the current situation and is searching for ways to deliver welfare to a growing population. Considering that SDG 1: no poverty, and SDG 2: zero hunger, are in the top of the agenda, the IPDMIP fits perfectly; nonetheless, other SDG such as gender equality, reduced inequalities, and climate action are also addressed. Among others, one of the objectives of the GOI is to achieve the rice self-sufficiency, and increased productivity plays a key role. In this regard, irrigation schemes, and their adequate maintenance and management, along with efficient agricultural practices, financial literacy, tailored value chains, and an enhanced institutional framework, constitute a feasible opportunity reach this objective.

IFAD has supported the agricultural and development agenda of the GOI over the last 35 years. The amount of 635.34 million US dollars has been provided for the execution of 19 projects, impacting 3.42 million households, most of them smallholder farmers. Strengthening the agriculture sector in Indonesia is fundamental, recognizing that one third of the population and two thirds of the poor rely on it (IFAD, 2018). To achieve such objective, IPDMIP has selected a multilevel and multidisciplinary approach, in which national, provincial, and district entities, as well as various ministries are involved, aiming to have a holistic view and different expertise working together to obtain improved and sustainable results.

The concept of having a project under such approach is right; nevertheless, the implementation mechanisms, interfaces, and an adequate institutional arrangement are key requirements for success. Adding actors and interests increase complexity, consequently, a proper steering and

full involvement of all the stakeholders to fully understand their expectations is essential.

IPDMIP is set to increase the welfare in Indonesia, but strong commitment and efficient implementation are decisive success factors.

4. PROJECT DESCRIPTION

This section aims to explain the basis on which the project was conceived, the main stakeholders, the interfaces amongst them, structure, and expected results. Considering that the field practicum focuses on component 4 (increased incomes for the smallholders), special emphasis will be given to it; yet, component 1, strengthened policies and institutional frameworks; component 2, better irrigation systems management; and component 3, improved irrigation infrastructure, will be briefly described to provide an overall understanding of the project. This section is heavily based on the Project Implementation Plan (PIM) (NPIU AAHERD, 2019b), a document handed over directly by the NPIU at the Ministry of Agriculture.

4.1. BACKGROUND

Guarantee food supply for Indonesia is a top priority in the Government's agenda. In line with this goal, in 2012 was instituted the new Food Law which aims "to strengthen the principles of food sovereignty and food self-reliance in ensuring food security by giving priority to the domestic production of staples. Self-sufficiency targets exist for 5 key staples — rice, maize, soybeans, sugar and beef" (OECD, 2015). Acknowledging that rice is the main staple crop in Indonesia with approximately 135 kg consumed yearly per person³ (FAO, 2019)⁴, it is important

³ Data for 2013

⁴ Refer to the section Food Balance Sheets on the FAOSTAT website.

to develop programs and projects that allow the agricultural sector to produce the necessary amount rice while the welfare of farmers is improved and the reliance on imports is minimized. Actually, even when the country has the capacity to harvest enough rice for a self-sufficiency, Indonesia is a net importer as can be seen in figure 2.

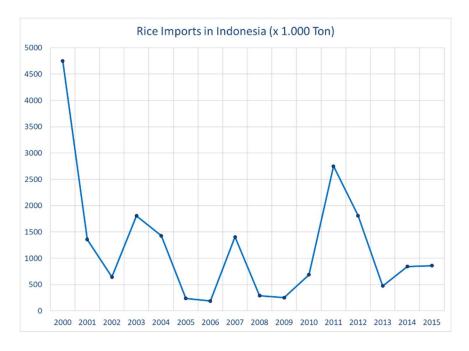


Figure 2: Rice imports in Indonesia. Vietnam, Thailand, India, and Pakistan are the main suppliers of the country.

Source: Self elaboration based on information from (BPS, 2017)

Based on the above, increased rice production is needed to achieve the self-sufficiency, and irrigation plays a key role in supporting this objective. Even though Indonesia has 7.2 million of hectares of irrigated land, these areas lack infrastructure maintenance and require urgent works to back the Government's purpose.

Infrastructure is not the only problem. Other aspects such as water-related institutions, lack of skilled agricultural extension workers, limited services to smallholder farmers from the financial system, among others, are problems to overcome if agricultural productivity is to be increased, rural poverty reduced, and gender equity promoted. Understanding this context, IPDMIP targets 900.000 households comprising 4.400.000 beneficiaries, and 719 irrigation schemes in 450.000

hectares across 74 districts in 16 provinces in the islands of Sumatra (5), Java (4), Sulawesi (3), Nusa Tenggara (2), and Kalimantan (2). In six years, starting from 2017, the project expects to overcome the mentioned problems through 4 components: (1) Strengthened Policy and Institutional Frameworks for Irrigated Agriculture; (2) Improved Irrigation Systems

Management; (3) Improved Irrigation Infrastructure; and (4) Increased Irrigated Agricultural Incomes.

To implement the four components, the National Development Planning Agency (BAPPENAS), the Ministry of Public Works and Housing (MoPWH), Ministry of Home Affairs (MoHA), Ministry of Agriculture (MoA), and the Ministry of Finance (MoF), will be represented by different agencies and directorates, amongst it is possible to find the National Steering Committee on Water Resources (NSCWR), Director General of Water Resources (DGWR), Director General of Agricultural Extension and Human Resources Development (AAEHRD), Director General of Regional Development (DGRD), Director of Water Resources Development (DWRD). These public entities will have representation at national, provincial and district level.

4.2. COMPONENTS DESCRIPTION

4.2.1. COMPONENT 1: Strengthened Policy and Institutional Frameworks for Irrigated Agriculture

To properly execute the project and guarantee its sustainability over the time, it is necessary to develop adequate institutions for a good governance at national, provincial and district levels. This component is comprised of four subcomponents: (1) strengthened local-level policy, regulatory, and institutional framework;(2) establishment of water resource

management and knowledge centers; (3) improved policy coordination for irrigated agriculture; and (4) project planning and implementation support.

Component 1 intends to develop capacities to improve the relationship between national and local levels, as well as with the final beneficiaries. A regulatory framework with procedures, manuals, technical information, etc., is essential for implementation that delivers and adds value to the involved stakeholders. Without specific institutions and governance models it will be hard to sustain the results of the project after the IPDMIP; hence, an enabling environment is fundamental.

The component is implemented by MoPWH, BAPPENAS, and MoHA.

4.2.2. COMPONENT 2: Improved Irrigation System Management

The development of institutions by component 1 shall be supported by a better water management. In this regard, component 2 aims to improve capacities in the delivery of water at the irrigation scheme level. For this purpose, three subcomponents were designed: (1) empowerment of Water User Associations (WUA); (2) improvement of irrigation systems field management; and (3) operationalization of a national asset management system.

Giving the means to the people to properly manage irrigation schemes will result in the empowerment of the communities and the feeling that they belong to them. The building of such sense will help improve actions on time for the infrastructure, operations, and the collective action related to the irrigation scheme. This is one way to distribute evenly the benefits of water availability, so it is possible to avoid conflicts related to common goods usage.

The component is implemented by MoPWH and MoHA.

4.2.3. COMPONENT 3: Improved Irrigation Infrastructure

Taking into account that the increased rice productivity will rely on irrigation, the infrastructure of the schemes will be rehabilitated for its use. In fact, this component will use the 60% of the 852.9 million US dollars project budget. This component involves two subcomponents: (1) preparatory assessments, and (2) irrigation systems rehabilitation, upgrading, and/or modernization. Here, under the command of the MoPWH, the detailed studies, engineering, and civil works for a proper irrigation infrastructure will be delivered.

4.2.4. COMPONENT 4: Increased irrigated agriculture incomes

This component is implemented by MoA and intends to improve the farm and market systems for rice and high value irrigated crops. It is financed by the GOI and a loan from IFAD for a total of 107.22 million US dollars, and has three subcomponents that combine technical, financial, and market knowledge, and skills development on farmers.

4.2.4.1. SUBCOMPONENT 4.1: Improved farm productivity and services

This SC starts from the recruitment and support of new and existing extension workers (PPL), their training, and the delivery of their work to the farmers. Through mechanisms like Field Farmers Schools (FFS), prizes for performance, and Public Private Partnerships (PPP), the farmers will receive technical knowledge to increase paddy production and post-harvest activities to reduce loses. The project foresees the training of 10.000 PPLs and FFS for 10.850 farmer groups. Another part of this component is the provision of high yielding seeds.

4.2.4.2. SUBCOMPONENT 4.2: Improved market access and services

As crop production is expected to increase, farmers will receive training to improve access to markets, the addition of value to their products, and improved post-harvest activities. For rice, better storage and drying facilities are expected to be provided; and for high value crops (i.e. vegetables, legumes), the target is to consolidate production clusters close to urban areas for the quick delivery of the goods.

To support and build the value chain SC, a fund will be established to finance particular projects. The objective is to stimulate the private sector investments through grants and allocate resources for public goods to address specific constraints in the value chains. The private sector will be highly involved in this SC as the main actor in markets.

4.2.4.3. SUBCOMPONENT 4.3: Improved financial access and use of services

The involvement of farmers in a formal financial system is important for the project. Through better financial institutions, better capacities and understanding of finance by farmers and rural households, and a conductive environment that facilitates access to financial services, the beneficiaries of the project will be able to support their productive activities. Knowing this, the establishment of financial literacy training, the formation of saving credit groups, grants based on performance, new products and services from financial providers, and encouragement for entrepreneurship will drive economic environment in rural areas, as well as the investments and life conditions of their inhabitants.

The four components have a strong interdependence. Institutions, water management, value chains, and infrastructure, should be able to revitalize rice and high value crops production and markets to alleviate rural poverty and ensure food sufficiency in Indonesia.

4.3. IMPLEMENTATION

IFAD, ADB, and GOI had meetings to define some the project procedures, policies, objectives as country and region, and agreements regarding the loan. Once the arrangements were set, the GOI assumed the responsibility for IPDMIP and delegated it to NSCWR as the entity in charge of all the projects related to water, chaired by BAPPENAS. This steering committee has a secretariat dedicated only to IPDMIP as it oversees many projects. NSCWR delegated the execution to the DGWR, which is under the direction of the MoPWH, and they constitute a National Planning and Management Unit (NPMU) exclusively for the IPDMIP, which will implement the four components, check reports, keep the accountability, and other administrative tasks. Below the NPMU, four NPIUs implement the four components, with the component 4 exclusively implemented by the Agency for Agricultural Extension and Human Resources Development (AAEHRD), which is part of the MoA.

Linked to the NPIU, but responding directly to their local governments, there are 16 PPIUs (provinces of Banten and West Java are managed by the NPIU), and 74 DPIUs. The role of local implementation units is to deliver the training, workshops, collect and forward the data, train PPLs, amongst other activities. Figure 3 shows a schematization of the hierarchy in the project, with component 4 highlighted as it is the focus of the field practicum. Here is important to mention that, despite the importance of the interaction between the NPIU and the PPIUs and DPIUs, the hierarchical organization do not give power to the NPIU over the local implementation units.

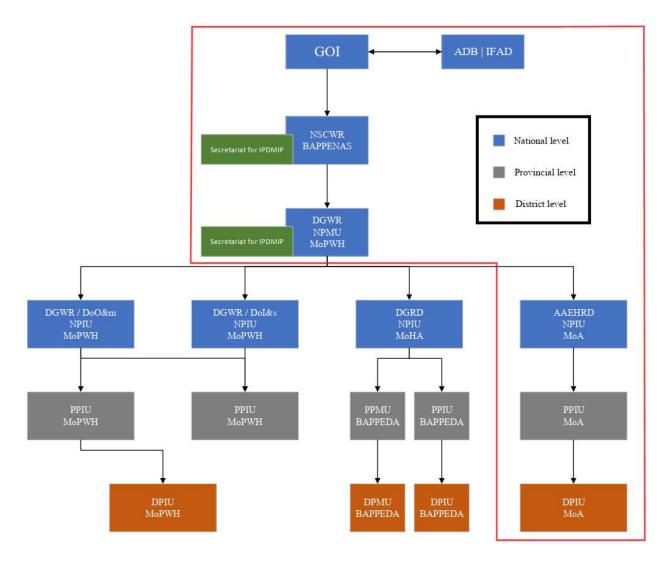


Figure 3: Hierarchy of IPDMIP. Source: Self preparation based on PIM

Based on a preliminary survey, the NPIU obtained information regarding the people that will take part in the project. This input has been used to estimate the magnitude of the project, the people to be recruited, the financial services required, and many other points that support increased incomes for smallholder farmers.

Basically, the NPIU leads the project and delivers the training packages for the three SC with the assistance of expert consultants. The team constantly interacts with the PPIUs and the DPIUs for the follow up and coordination actions, they also prepare the Annual Work Plan and Budget (AWPB) based on their capacities, knowledge of the territory, people available, and priorities, to

understand the resources to be spent in the fiscal years. DPIUs, and PPIUs are also supposed to prepare monthly reports for the NPIU on the project status and take actions opportunely when execution is lagging.

Apart from calls and scheduled visits, four to eight meeting are held yearly, and all the local representatives are encouraged to participate to express experiences, difficulties, share knowledge.

5. METHODOLOGY

At the beginning of the field practicum research, and conscious of the limited time, all the relevant information was requested while the interaction with the NPIU was established. Once a set of documents were handed over by the NPIU and the group of consultants, and then analyzed, the problems related to the M&ES were specifically evaluated. At this point, comparisons between the proposal presented in April 2019, and the actual path that the practicum was taking was subject to evaluation to ensure that a useful and feasible product could be delivered to the NPIU. The initial objective of developing specific project control tools such as a schedule and data collection tables changed to concrete recommendations concerning the M&ES.

The ideas were the subject of focus group discussions (consultants), so a concept from experts in this kind of projects could be obtained. To complement this, a quick feasibility assessment with SWOT matrixes (Fleisher & Bensoussan, 2003) was done, and the use of an alternative methodology for the physical progress calculation - man-hours analysis (Fouché, 2006) - was applied to compare the results with the current in use.

The discussion of the findings in the implementation (section 7) and the solutions proposed (section 8) finishes with a risk analysis about potential issues that might arise if the proposals are taken in consideration

6. FIELD PRACTICUM RESEARCH PROPOSAL SUMMARY

Before arriving and becoming involved in the project, a proposal for the field practicum was agreed in April 2019 (see exhibit A). The quoted document was based on information available on IFAD web site, specifically (IFAD, 2015) and (IFAD, 2019). This chapter intends to explain the expectations and objectives prior arrival to the field practicum, and the actual work carried out in order to see how it changed with the involvement in the project.

The emphasis of the proposal is the M&ES, which at that point was understood as a way to control the project and implement actions that help the NPIU in the execution. More specifically, "to cope with adequate planning, it is appropriate to **develop a general schedule** that can be adapted to all the irrigation schemes, also it is necessary to **create progress tables** to feed into schedule with dates and progress status, and **forms for data collection** in the different provinces and districts" (Imbett, 2019). Knowing the above, a plan was structured (see exhibit A, page 10), and the risks likely to materialize. The proposal was supposed to build these tools with an active participation of the IPDMIP group. Various workshops and field visits were foreseen to understand the big picture and develop a useful product.

A project of this magnitude requires a robust planning system to allow the NPIU to know the status on a regular basis in terms of physical progress and budget, and to allow the steering committee to take decisions in interface with the other components. It was noted that no actions

were taken in this regard, and there was no baseline to properly assess and have a precise idea of the target people and the activities to carry out. Aware of this, the field practicum migrated to outline recommendations that could facilitate data gathering, the follow up directly in the districts, the methods for the evaluation of the activities, and how to improve the implementation of low-budgeted districts.

7. PROJECT STATUS AT ARRIVAL

A multilevel and multidisciplinary arrangement in a project is functional when it has the capacity to comprehend the big picture of the objectives and is able to deliver integral and sustainable solutions from a holistic point of view. Certainly, it is hard to implement if the right institutions, interfaces, and procedures do not exist or there is still work to do to fully implement them. The fine tuning of all the details prior the beginning of any project is crucial to assure its successful implementation, especially in ambitious projects like IPDMIP where the scope is broad and the areas to be covered are large and dispersed.

IPDMIP is one of the first projects in Indonesia applying interdisciplinarity at different levels; however, even when this approach is used to tackle different difficulties altogether, it faces strong implementation problems in component 4. It is already the third year of six years for the project, and the general conclusion is that long delays took place due to the mechanisms adopted in the implementation, the inability to manage the big amount of different interfaces / interactions among the parties involved (over six hundred), and the difficulties to have the different districts and provinces on board and fully committed.

This section presents the main problems and constraints identified in the field practicum to have a clear idea of the current situation and performance with the objective of focusing efforts on addressing them; in addition, it will be the starting point to outline recommendations that might have positive impacts in the coming stages of the project.

7.1. BASELINE

The collection of information to set a starting point for the project is essential for the evaluation of progress and performance. Up to date, no baseline has been set, and the project is being measured against the initial assessment that took place for its design back in 2015, which might result in information not anymore valid; besides, the changes and impacts cannot be measured precisely. Also, it would be difficult to redefine targets, no effective control can be applied and, as the intervention has started, to reconstruct a "zero" scenario is difficult and consequently the overall and accurate impact will be hard to properly assess.

The main reason for the delay in the setup of a baseline is directly linked to the procurement activities and personnel selection, as they would be the responsible to assign and contract the execution of the survey. Considering that so far IPDMIP is on its third year of execution, this point must be a top priority for the coming weeks to guarantee good results, impact measurement, and indicators that might be used in coming projects by the GOI.

7.2. DATA COLLECTION

Aside from the lack a baseline, another major problem is the data collection from provincial and district level. To ease the information gathering, the NPIU has developed an internet-based platform called SIMONEV (http://moaipdmip.org) that permits the districts to upload the

information directly; however, there are other fundamental problems that need to be solved to get the information required.

First, the personnel at the PPIUs and the DPIUs according to the design of the project were supposed to have enough time to supervise, participate in the trainings, coordinate the PPLs, collect the information, etc., even though, they are actually involved in other projects and have to obey the directions and priorities of their local offices. This means that the multilevel approach considered something unfeasible at the design stage, and consequently the project is suffering problems in the implementation. In the same way, and related to the baseline point, more consultants were expected to be recruited, but due the delay in procurement activities, this has not been possible.

Second, the procedures for data collection are inefficient. The DPIU officers are supposed to visit the villages in their districts, and coordinate the workshops and trainings with the farmers and PPLs; apart from that, they have to collect the data, complete the forms, send them to the PPIU and NPIU, and make monthly progress reports. As it is possible to see, work is highly demanding and difficult to cope with, and if the overload of work is also taken into account, local officers are not able to report the information within the due dates and with the expected quality. Another point worth mentioning is the tool SIMONEV, which is not user friendly and requires time to input the data.

Third and final, not all the districts and provinces are fully on board in the project. There are political decisions in terms of whether local governments want to participate in the project. To understand this, even when this is a national-interest project, local governments have the autonomy to participate or not as the irrigation area might belong to them (areas over 3000 Ha correspond to the national level, between 3000 Ha and 1000 Ha to the provincial, and below

1000 Ha to the district). They need to allocate resources to the project even though they will be reimbursed by the national level (see section 7.3 - FINANCING MECHANISMS). If not all the target districts within a province are cooperating, the PPIU cannot deliver a full report; similarly, if the province level is not involved, DPIU cannot send the information to the PPIU to gather and deliver to the NPIU. In this concern, it is necessary that local governments understand the benefits and assume responsibilities with the IPDMIP, their people and the GOI. There have been cases where local government quit the project without an acceptable reason, so the decision to get involved should be irrevocable, and the performance evaluated for the eligibility in the execution of future projects.

7.3. FINANCING MECHANISMS

Considering that the execution of the project takes place in the provinces and districts, the IPDMIP has to be aware of the responsibility of regional governments in managing their own public finances, their revenue-raising authority, and the system of transfers from the national government (Law 33 of 2004) (OECD, 2009). The GOI and IFAD selected an on-granting mechanism to allocate resources at the provincial and district levels, where the budget assignment by local governments to the IPDMIP is based on the AWPB delivered by the PPIUs and DPIUs, and while the activities are being executed, and the money used, the local government claims reimbursement from MoF. This mechanism aims to respect the role of the local governments while they don't have to expend their own budget on the project.

The above is a brief statement of the actual flow of the resources and the procedures that need to be taken in account. Local governments see this mechanism as complicated and are reluctant to (even if virtually) assign their own resources to the IPDMIP. It is also important to consider that reimbursement takes about one month if the information and forms are correctly sent to the MoF.

Today the project has various districts and provinces that do not thrust this financial system and do not want to assign resources to the project, resulting in zero execution rates. Even if the DPIU and PPIU make an AWPB, it is still dependent on the decision of the local parliament, as it is in the position to decide the final amount of money available.

These bottlenecks in the delivery of the resources were not seen as a potential delaying factor. It was assumed that local governments would understand and accept that they would not use their own budget even if they had to create an account for the project. The respect for the decentralization considered by the project has been in some cases an obstacle for opportunities to proceed and deliver welfare to the smallholder farmers. Bureaucratic constraints should not affect the execution of the project, and actions from major instances are needed to untie any kind blocking procedures and misunderstandings.

7.4. BUDGET DISTRIBUTION

For the assignment of resources, the head of local government (Bupati or Governor) signed an on-granting agreement (OGA) with the MoF in which the budget for the execution of the activities by the PPIUs, and DPIUs is defined. Even though the PIM states that the assignments are "based on evaluations", the criteria for the distribution of resources is not clear and might impact on expected performance in some districts. Table 2 shows that the rehabilitated area by district is not always congruent with the resources assigned; in addition, there are cases in which municipalities have a large irrigation area but low budget available. This is a constraint as the DPIUs have to implement the project with a tradeoff between quality and quantity.

The irrigation rehabilitation area of the project is approximately 300.282 Ha⁵, while the overall budget at district level is 33.220.000 US dollars, thus an average of 9.94 Ha/1000 US dollars. The districts of **Aceh Timur**, **Musi Rawas**, **Lampung Tengah**, **Serang**, **Kebumen**, **Purworejo**, **Bolaang Mongondow**, **Pinrang**, **Sidenreng Rappang** have to deliver their planned services when spending between a quarter and a half of the average expenditure per hectare. This is a big challenge for these districts and raises the question of the expected quality of the work to be performed.

DISTRICT		Budget (x1000USD)	% of total budget	Rehab. Area in the district (Ha.)	% of total area	Ha/1000 USD
1	Aceh Besar	573.74	1.73%	2251.25	0.68%	3.92
2	Aceh Utara	247.39	0.74%	2182.60	0.66%	8.82
3	Aceh Timur	362.11	1.09%	7975.13	2.41%	22.02
4	Bireun	528.34	1.59%	4797.90	1.45%	9.08
5	Tapanuli Tengah	391.03	1.18%	1642.00	0.50%	4.20
6	Asahan	145.82	0.44%	2586.00	0.78%	17.73
7	Humbang Hasundutan	373.68	1.12%	2951.50	0.89%	7.90
8	Simalungun	484.68	1.46%	4992.00	1.51%	10.30
9	Sinjunjung	369.83	1.11%	1909.20	0.58%	5.16
10	Pasaman	567.38	1.71%	5905.68	1.79%	10.41
11	Limapuluh Koto	563.94	1.70%	3764.58	1.14%	6.68
12	Pasaman Barat	440.46	1.33%	4780.04	1.45%	10.85
13	Pesisir Selatan	599.67	1.81%	3524.98	1.07%	5.88
14	Musi Rawas	273.15	0.82%	6089.57	1.84%	22.29
15	Empat Lawang	337.81	1.02%	3030.94	0.92%	8.97
16	Ogan Komering Ulu Selatan	273.67	0.82%	2179.91	0.66%	7.97
17	Muara Enim	466.43	1.40%	3969.48	1.20%	8.51
18	Musi Banyuasin	238.53	0.72%	3405.00	1.03%	14.27
19	Banyuasin	272.01	0.82%	4586.00	1.39%	16.86
20	Pesawaran	467.65	1.41%	2869.64	0.87%	6.14
21	Tanggamus	814.81	2.45%	6270.84	1.90%	7.70
22	Lampung Tengah	552.16	1.66%	22556.76	6.83%	40.85
23	Tulangbawang	287.58	0.87%	3905.25	1.18%	13.58
24	Mesuji	181.69	0.55%	3968.00	1.20%	21.84

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⁵ The final and fixed area is not yet defined

25	Serang	231.01	0.70%	10246.40	3.10%	44.35
26	Pandeglang	460.80	1.39%	4403.57	1.33%	9.56
27	Cirebon	323.11	0.97%	5021.36	1.52%	15.54
28	Garut	446.41	1.34%	1644.33	0.50%	3.68
29	Indramayu	495.32	1.49%	4362.94	1.32%	8.81
30	Kuningan	616.88	1.86%	2695.13	0.82%	4.37
31	Ciamis	796.94	2.40%	4323.58	1.31%	5.43
32	Sukabumi	890.53	2.68%	5771.53	1.75%	6.48
33	Majalengka	580.90	1.75%	3335.12	1.01%	5.74
34	Sumedang	467.54	1.41%	1954.16	0.59%	4.18
35	Kebumen	315.95	0.95%	7820.53	2.37%	24.75
36	Banjarnegara	340.52	1.03%	1704.93	0.52%	5.01
37	Purworejo	244.58	0.74%	5808.63	1.76%	23.75
38	Pekalongan	316.57	0.95%	2188.69	0.66%	6.91
39	Pati	759.67	2.29%	2731.83	0.83%	3.60
40	Banyumas	380.35	1.14%	1853.28	0.56%	4.87
41	Cilacap	560.88	1.69%	6410.70	1.94%	11.43
42	Bojonegoro	311.53	0.94%	1431.87	0.43%	4.60
43	Ngawi	739.87	2.23%	2019.34	0.61%	2.73
44	Lamongan	810.64	2.44%	3263.49	0.99%	4.03
45	Kediri	777.20	2.34%	3799.60	1.15%	4.89
46	Madiun	573.64	1.73%	3123.20	0.95%	5.44
47	Lumajang	575.37	1.73%	2243.74	0.68%	3.90
48	Jember	321.85	0.97%	6384.31	1.93%	19.84
49	Jombang	514.19	1.55%	7467.97	2.26%	14.52
50	Sidoarjo	455.86	1.37%	1270.00	0.38%	2.79
51	Ketapang	294.05	0.89%	1311.00	0.40%	4.46
52	Kubu Raya	345.84	1.04%	2574.63	0.78%	7.44
53	Sambas	387.38	1.17%	6148.00	1.86%	15.87
54	Kayong Utara	304.75	0.92%	1519.00	0.46%	4.98
55	Hulu Sungai Tengah	478.63	1.44%	3468.60	1.05%	7.25
56	Tapin	380.57	1.15%	2730.25	0.83%	7.17
57	Barito Kuala	492.71	1.48%	4391.00	1.33%	8.91
58	Tanah Bumbu	411.12	1.24%	3523.50	1.07%	8.57
59	Minahasa Selatan	439.53	1.32%	3116.20	0.94%	7.09
60	Bolaang Mongondow	418.32	1.26%	8911.39	2.70%	21.30
61	Toli	479.88	1.44%	2565.80	0.78%	5.35
62	Poso	357.52	1.08%	2099.60	0.64%	5.87
63	Banggai	828.82	2.49%	6243.72	1.89%	7.53
64	Wajo	503.14	1.51%	5582.24	1.69%	11.09
65	Pinrang	362.67	1.09%	16736.09	5.07%	46.15
66	Sidenreng Rappang	410.50	1.24%	8594.90	2.60%	20.94
67	Soppeng	278.79	0.84%	4014.58	1.22%	14.40
68	Bone	394.85	1.19%	4376.15	1.32%	11.08

69	Lombok Tengah	306.87	0.92%	5243.68	1.59%	17.09
70	Lombok Timur	663.91	2.00%	5339.10	1.62%	8.04
71	Bima	642.88	1.94%	5536.00	1.68%	8.61
72	Dompu	300.06	0.90%	4584.60	1.39%	15.28
73	Manggarai Barat	306.04	0.92%	2687.39	0.81%	8.78
74	Manggarai Timur	309.76	0.93%	3610.86	1.09%	11.66
	TOTAL	33220.31	100%	330282.75	100%	Avg. 9.94

Table 2: Distribution of resources and rehabilitation area among the districts. Source: Information provided by IPDMIP

7.5. EVALUATION SYSTEM

The project as of December 2018 reports a physical progress of 29.23% for SC 1, 9.02% for SC 2, and no progress is shown for SC 3. These results confirm that performance has being low; besides, it is important to question the methodology for the calculation of this progress. Table 3 shows the results at district level for SC 2. The calculation of the overall progress is done by simply adding the activities executed in each category, with the result divided by the overall:

III.	DPIU							
A	Workshop and Value Chain Study							
1	Initial value chain mapping	Package	21	9	42.86	1,617,730,192	130,613,700	9.97
	Value Chain Validation	Workshop	11	2	18.18	2,154,342,538	35,036,000	1.63
	Up-dated Value Chain Mapping	Study	11	0	0.00	190,471,000	0	0.00
В	Value Chain Facilitation	Event	30	1	3.33	3,349,443,231	46,025,000	1.37
	Sub Total DPIU		73	12	16.44	7,311,986,961	211,674,700	3.31

Table 3: Results at district level for SC 2. Source: IPDMIP 2018 annual report.

This approach has fundamental misinterpretations taking into account that the measurement units of the activities are different, and the efforts applied vary. In this example there are packages, workshops, studies, and events, which cannot be directly compared as they do not have a common reference unit; therefore, the validity of the progress calculation is doubtful.

Another valid point is the calculation of overall progress for each SC. Here, it is possible to see that the result is a simple average of the NPIU, PPIU, and DPIU, methodology. This should be double checked as well, since the total amount of work related to the project at the different levels has totally different proportions. At the different DPIUs and PPIUs, around 15 people somehow are involved in the project, while at the NPIU, 20 people are work full time; that means an estimate of 1100 people, 210, and 20, respectively, which reflects the big differences in the total amount of labor used.

7.6. FOLLOW UP PROCEDURES

Continuing with the progress tables, the current arrangement hinders proper follow up and the ability to take adequate corrective actions because they are only related to the goals of each SC, and not to the steps in-between to carry out the activity. For example, in the recruitment of the new staff (see table 4), first it would be necessary to have the CVs, then make the selection for the tests, carry out tests, interviews, prepare the contract, etc., so it could take several weeks, and it is the addition of several activities, not just one.

DPIU							
Extension Staff Recruitment & Training			,				
Recruitment			,				
New Staff	Person	694	306	44.09	9,375,608,429	1,548,729,900	12.86
New Staff Operating Costs	years	776	177	22.81	1,288,108,761	211,361,100	13.75
	Extension Staff Recruitment & Training Recruitment New Staff	Extension Staff Recruitment & Training Recruitment New Staff Person	Extension Staff Recruitment & Training Recruitment New Staff Person 694	Extension Staff Recruitment & Training Recruitment New Staff Person 694 306	Extension Staff Recruitment & Training Recruitment New Staff Person 694 306 44.09	Extension Staff Recruitment & Training Recruitment New Staff Person 694 306 44.09 9,375,608,429	Extension Staff Recruitment & Training Recruitment New Staff Person 694 306 44.09 9,375,608,429 1,548,729,900

Table 4: Example from SC 1 for follow up tables. Source: IPDMIP 2018 annual report.

Having this detail allows the project to take immediate actions over delayed activities, which is not a possibility when there is only the milestone as reference. To continue with the example of personnel selection, assume that the process takes 5 weeks and the activity is supposed to be finished by the end of November 2019, so it should start in October. If there is the detail, it

would be easier to notice a delay, that is, if the reception of the CVs is not done by the beginning of November, the project can take action immediately; however, if the project does not have an accurate activity tracking system, it will realize only by the end of November that the activity was not carried out, so instead of one week delay, there will be a five weeks delay, which is critical considering the implementation problems faced by the project.

7.7. RECOVERY PLAN

Apart from the aforementioned difficulties, currently there is no outline for a recovery plan that states punctually the actions to be executed to catch up with the project implementation. It is true that there are many features of the project out hands of the NPIU such as acceptance of the budget by the local governments; however, there are others that should be considered as top priority to start working on, especially when the mid-term review is expected to take place in the first semester of next year.

Information from the baseline survey is crucial to have a clear picture of the total amount of work at the local levels, so it is possible to focus on those districts that account for the most of the irrigation area and work with particular approaches; additionally, the development of tools that ease the information sharing to take actions immediately is important, and should be part of a set up for a recovery plan.

This recovery plan should consider that more effort is necessary if the project is expected finalize in 2022 with the fixed budget; thus, the actions to be taken should be more efficient in terms of resource use and time. In this regard, to have a clear strategy and its enablement at the different levels will be a key for the success of the IPDMIP.

8. ANALYSIS AND RECOMMENDATIONS

Any kind of project can perform well and deliver the expected results if adequate actions are taken at the right time. IPDMIP started its execution without setting up fundamental management requisites such as a baseline, an adequate distribution of resources, an accurate project control system, and a financing system that did not need the approval of other instances.

Considering that the project is already running, and needs to face its difficulties, this section outlines recommendations that might have positive impacts on overall project execution. The financing mechanisms are not included in this analysis as the procedures have been agreed between MoF, IPDMIP, IFAD, and local governments, so if any action is expected to take place, the fine tuning of a solution should come directly from them. Apart from that, the baseline survey will also be excluded due the fact that is has to be carried out as soon as possible, and there is no option for another solution.

8.1. ENHANCING THE DATA COLLECTION SYSTEM

Officers in the implementation units are overloaded with work and are not capable of delivering the information on time. Up to now, apart from meetings, and constantly ask to the officer to share the information, no other actions have been taken.

Acknowledging the current situation, it is important to redefine the workload and start delegating responsibilities. In this case, the PPLs might be able to deliver the data directly to the DPIUs, PPIUs, and NPIU, even if minor adjustments might be required and a final verification should take place. In addition to that, and further to facilitate the process, a mobile app that collects the data and uploads the information to a database out of which the information can be extracted,

would enhance the collection system and allow improved evaluation of the project execution.

Table 5 shows a SWOT⁶ analysis made for this solution.

Strengths	Weaknesses
• Easy to use	It has to be developed
Immediate data collection	Workshops for the proper use of the tool have to
• Reliable data (comes directly from the districts /	be spread all over the intervention area
farmers)	Support is required (additional personnel or
• Information can be easily validated	outsourced)
• Can be used from mobile phones (the most of	
Indonesians have m.p.)	
Opportunities	Threats
• To consolidate a real-time data collection system	No availability of mobile phones
• Integration to the current system	Lack of internet service in remote areas
• To keep track on every single district regarding	System failure
the progress of the project on a regular basis	
• Possibility to incorporate other planning M&E	
aspects, such as forecasting, resources leveling,	
critical activities, etc.	

Table 5: SWOT analysis for app solution relying on PPLs. Source: Self elaboration.

The arising opportunities of this solution are worthy of consideration, especially because the app could have other features that address other project difficulties. It is true that it has to be developed, and training and support are required; however, in the trade-off between the positive points and the negatives, the benefits are greater.

Two other solutions are related to the recruitment of more people dedicated to data collection from the national level assigned to districts and/or provinces. The first one considers full time personnel at each district and province, and the other only in provinces that travel regularly to the districts to collect the data. Both options can assure immediately the

⁶ Strength, Weaknesses, Opportunities, Threats.

accuracy of the data, as well as the presence of the people that report directly to the national level as a way to legitimate the IPDMIP. Tables 6 and 7 show the accordingly SWOT analysis.

Strengths • Data delivery can be completely ensured • Full support to the provinces and the districts directly from the national level • Directions and information can be delivered and implemented faster	Weaknesses A lot of personnel is required Proper training is mandatory High costs Personnel assigned need to travel a lot
Opportunities • From the central and provincial level to be closer to the district and the farmers, which would enhace the multilevel coordination and execution of the project.	Threats • Accidentality risks for the new personnel

Table 6: SWOT analysis for full time personnel from national level assigned in every district and province. Source: Self elaboration.

Strengths ■ Data delivery can be ensured ■ Full support to the provinces and the districts directly from the national level ■ Directions and information can be delivered and implemented faster than the current scenario; but slower than the additional personnel solution	Weaknesses New personnel is required Proper training is mandatory Costs increase Personnel assigned need to travel a lot
Opportunities • From the central and provincial level to be closer to the district and the farmers, which would enhace the multilevel coordination and execution of the project.	Threats • Accidentality risks for the new personnel

Table 7: SWOT analysis for full time personnel from national level assigned to provinces. Source: Self elaboration

Local consultants are supposed to carry out the work of data collection and support to the regional implementation units, which is similar to the proposals 2 and 3; nevertheless, the difficulties suffered by the procurement have delayed the recruitment.

Other possibility to be considered is the mix of solution 1 (app), with solution 2 or 3 (personnel addition). The main point of these options is to recognize that officer currently involved in the project are not able to complete their regular duties, plus other assigned by IPDMIP; therefore, it is necessary to provide them with new tools, and/or more people.

8.2. PHYSICAL PROGRESS MEASSUREMENT

As stated in section 6.5, the measurement if the project's physical progress raised doubts; consequently, it is important for IPDMIP to consider the application of another methodology for the calculation. Under this logic, it is recommended that the project agrees on common units for activities. Man Hours (MH) is a suitable methodology for this case, as it gives a general frame for the analysis, and based on the experience of the NPIU, PPIUs, and DPIUs it would be possible to estimate the total amount of work required to perform activities.

For an accurate assessment, it is important to understand that the activities stated in the annual report encompass many other steps that need to be considered, so the final effort will be the total MH or the time used to complete an activity (Fouché, 2006). Taking the example of section 6.6 regarding recruitment, a way to complete the measurement would be as presented in table 8, considering that the unit used is MH.

Recruitment Unit		Total	Accomplished	Progress
New staff	Person	694	306	44.09%
CVs reception		$694 \times 2 = 1388$	$694 \times 2 = 1388$	100.00%
Selection	МН	$694 \times 3 = 2082$	$400 \times 3 = 1200$	57.64%
Tests		$694 \times 5 = 3470$	$306 \times 5 = 1530$	44.09%
Interview		$694 \times 2 = 1388$	$306 \times 2 = 612$	44.09%
Contract		$694 \times (2+1) = 2082$	$306 \times (2+1) = 918$	44.09%
TOTAL		10410	5648	54.26%

Table 8: Example of MH progress measurement approach. Source: self-elaboration.

This example assumes that all the CVs have been received, and that each takes 2 MH to be checked, for the selection, 400 out of 694 positions available, have candidates, and for the contract, 2 MH are required by human resources, and 1 MH by the legal department. The result, as the activity is segregated, is a progress of 54.26%, against a 44.09% of actually contracted people. This is more accurate, and can be compared with other types of activities, which is one of the main advantages.

Another strength in using this methodology is the possibility of using performance indexes (KPI), which would allow the project to know how efficiently it is carrying out the activities; for example, if an activity is expected to be performed with 100 MH, but the project actually used 125 MH, the performance would be 100 MH / 125 MH = 0.8%, so a low performance, and actions need to be taken; likewise, if the same activity is executed using only 80 MH, 100 MH / 80 MH = 1.25%, a good performance and a reason to encourage the team to keep working efficiently.

8.3. DETAILED CONTROL OVER ACTIVITIES

Aligned with the physical progress measurement, this section purpose is to highlight the importance of having a good detail on each activity. It is true that more detail would help in having better follow up, control, and, if implemented, a more accurate physical progress

calculation; although, it is important to consider that so far it has been difficult for local levels to send data to the project, so giving them more information to analyze and track might not be feasible.

Even though, and using the approach of delivering tools, a potential solution and guidance in the execution of the activities could be a checklist that includes all the necessary steps and activities that they should follow to take the project to fruition. This checklist would serve only as reference, so it will not be controlled and the officers, and PPLs will be sure about the steps and activities they have to carry out in a simple way.

8.4. SPECIAL FOCUS ON LOW-BUDGET DISTRICTS

The districts of Aceh Timur, Musi Rawas, Lampung Tengah, Serang, Kebumen, Purworejo, Bolaang Mongondow, Pinrang, Sidenreng Rappang have to cover twice to four times the average area (9.94 Ha) with 1000 US dollars. This scenario put these districts in serious difficulties considering that they will suffer a lack of resources or they will deliver the work without paying much attention to quality. The 9 districts together account for 28.7% of the total rehabilitated area and have only the 9.54% of the resources, which is a disproportion that need to be considered with a special focus.

The resources assignment could be easily solved by recalculating; nonetheless, the OGA is fixed and it would be difficult to make such modifications. Acknowledging this constraint, NPIU, and the relevant DPIUs should develop particular execution plans and follow up procedures for these districts in order to improve their performance and efficiency to deliver the expected results. The particular execution plan should have, but is not limited to:

• Detailed schedule

- Dedicated cost control and project control specialists
- Fortnightly visits to site
- Tailored training programs and full-time support from the instructors
- Special procurement procedures (i.e. direct contracts under supervision)
- Eased financial mechanisms

9. IMPLEMENTATION RISKS AND OTHER ACTIONS TO CONSIDER

The four recommendations outlined in section 8 have the potential to enhance the implementation of the project, and facilitate the achievement of the expected results, always under the premise that there is still work to do, and the remaining years will be difficult in terms of implementation. Even so, there are six points that need to be considered if trying to implement new solutions to catch up with the original plans.

First, it is advisable that no action is taken without considering the visions, ideas, and the opinion of people in the territories (i.e. villages, districts, provinces). It is common to see how well-designed projects fail because they believe that the right vision is the one that experts have, without considering the real needs of the people who will benefit from the project (Easterly, 2013), and those who are directly implementing the project. Taking as an example the case for the mobile app, it would be logical to design it with a special focus in the user, applying methodologies such as service blueprint, prototypes, run simulations, etc., instead of forcing them to used something that works from the view point of the NPIU and the developer. This is also a way to promote the app and to legitimate its implementation.

In the case of the special focus on the low-budget districts, giving them a path of action is meaningless if the project does not go further in understanding their needs, and what might arise from the constraints in terms of resources. The big picture in these cases is fundamental to design tailored programs to solve problems and deliver sustainable results.

The second point is related to the project procedures. The rigor in the application of procedures may be counterproductive if it undermines the regular flow of the information and the execution of activities. Procedures are supposed to delineate standards; hence, an action can be implemented with the same quality and accountability in Central Java, North Sulawesi, or any other province or district; nevertheless, when it blocks or slows down any type of implementation, it is worthwhile considering modifications agreed amongst the parties to speed up the processes.

An example of this point is the procurement activities, which have had a major impact on the project implementation, and there are still signs that it will take more time to get a definitive solution to the procurement constraints. The NPIU and the NPMU need to objectively address this problem and find a solution. With barely more than three years to finalize the project, it will be difficult to achieve fast implementation if procedures of any kind are making processes longer than expected to be completed.

The third aspect comes from the balance between extension and scope in the project and the installed capacity of the M&ES. Component 4 and its subcomponents represent 100 million US dollars and a big impact in rural areas; therefore, a robust M&ES is essential for effective analysis of trends, deviations, pivot points, and opportunities to keep extending the impact of the IPDMIP. If the M&ES group remains at is current size, it will be difficult to keep facing the big

challenge related to the analysis of the data, and to the identification of routes of action with the rest of the management team.

In addition to the tools and support for the local level (as described in section 8.1) being critical for the M&ES, the IPDMIP will need additional people in the NPIU to properly analyze large amounts of data, and build more interaction with the people in the districts as well. This is because the aim of the project is not only to increase the productivity of crops, but also to assist the people to develop capacities for sustainable incomes.

A fourth point would be the results obtained from the baseline survey. Having started the Project before setting a baseline makes difficult to reflect the overall impact of the project. IPDMIP NPIU needs to understand that the reconstruction of a "zero intervention" scenario is impossible to obtain; therefore, the results need to be carefully analyzed to properly take actions in the project regarding further implementation stages in the coming three years.

The fifth point is the interaction with other NPIUs in different ministries. The conception of this project was born as a multidisciplinary approach that aimed to develop institutions, water management capabilities, better infrastructure, and better agricultural systems. On paper, the components fit each other; however, in reality the interaction between NPIU belonging to the AAEHRD and to the other organizations rarely occurs. The linkage of all four components shall consider that the irrigation schemes are to support agricultural practices, which at the same time are expected to satisfy food demand and markets. An overdesigned irrigation scheme would be a waste of money, while a design not supplying the required amount of water might result in shortages. The joint planning is necessary to have a fully integrated project (Easter, 2000).

Irrigations schemes are going to be delivered to communities, and if they do not have an overall

comprehension of the project, irrigation management will be difficult and the long-term results

undermined; in addition, the communities have to be fully engaged with the project, because increased agricultural production and irrigation are the core, but the appropriation, legitimation, and apprehension of the knowledge and the assets will define how long the IPDMIP will be useful after implementation.

To finalize, the IPDMIP should use the mid-term project review with IFAD and the NPMU as an opportunity to solve the difficulties described in this work. This will be a unique chance to redefine strategies, create communication channels, new procedures, and a plan to catch up with the expected project execution plan. This work shall start immediately to be able to justify and argue why it is worth to change some of the current arrangements to facilitate the overall execution of the project and obtain the expected results.

10. CONCLUSIONS

The IPDMIP supports Indonesia's objectives and necessities. The project's four components complement each other to get sustainable results related to the increase of the agricultural productivity, reduction of rural poverty, promotion of gender equity, and the improvement of nutrition; however, the implementation has suffered many problems. After the review of the information, talks with the members of the project, and the analysis carried out, it is concluded that most of the problems of the IPDMIP come from the design of the implementation itself, which does not consider a number of regulations, procedures, laws, and workload at the local agencies.

Judgements related to the poor performance of districts and provinces have to be carefully analyzed, because they depend on the local government for the budget needed to execute the

activities, and there is not enough personnel to carry out the activities, thus, they have low chances to effectively deliver the goals that the GOI expects.

Another point worth considering is the already known bad performance of local governments (Suharyanto, Sutaryo, Mahullete, Meiria, & Supriyono, 2018). The acknowledgement of this situation should have been a key point in the design of the implementation, because from the very beginning it is possible to alleviate the bureaucratic responsibilities to make them focus on an effective execution.

Considering the aforementioned, a project as ambitious as IPDMIP with over 850 million US dollars of budget needed a preliminary phase to identify all the constraints that could have obstructing the implementation. Also, the directions coming from the upper levels in the government should have considered the necessities of the local governments. Bottom up approaches for such investments are crucial to guarantee the success of a project, because in the end, the communities in the districts are the only ones that are going to gain from the results, and the failure of the project is actually a failure for them.

Referring now to the M&ES, the poor collection of information is a consequence of the misguided implementation procedures in the project. It is not possible to demand information from local levels if they have other priorities that come directly from local governments, the information cannot be analyzed if the NPIU team does not obtain it, and finally, there will not be steering decisions if the analysis are not carried out. Solutions outlined in this work have the potential to overcome some of the operational problems encountered by the project; however, unless the core implementation problems are solved, it will be difficult to deliver the expected results.

Mid-term revision is the opportunity to address and solve all these problems. In the authors opinion, design a new implementation manual, solve the communication disruptions, contract the baseline survey, and bring staff and target farmers on board to have a new start and implement efficiently in the remaining three years, is fundamental to comply with the goals of the IPDMIP.

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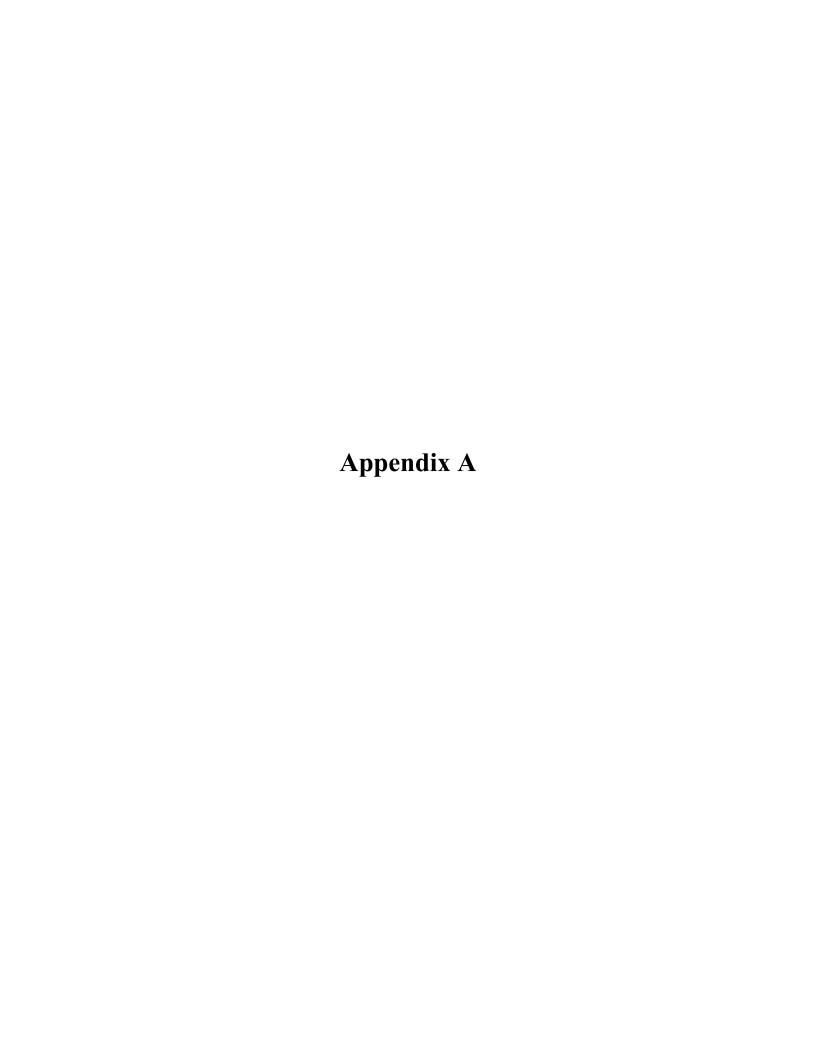
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IFAD – MDP Global Network

Research Proposal for field practicum

Integrated Participatory Development and Management of Irrigation Project (IPDMIP)

TABLE OF CONTENTS

1	ABSTRACT	2
2	INTRODUCTION	2
3	CONTEXTUAL INFORMATION	3
4	CONCEPTUAL INFORMATION	5
5	FIELD PRACTICUM RESEARCH PROPOSAL	8
	5.1 PLANNING SYSTEM: Schedule and Monitoring & Reporting	9
6	RISKS IN THE EXECUTION OF THE PRACTICUM	11
7	BIBLIOGRAPHY	12
8	Exhibits	14
	8.1 Exhibit 1: Comments to proposal sent on March 25 th , 2019	14

1 ABSTRACT

Indonesia is the strongest economy in Southeast Asia and the fourth most populated country in the world (World Bank, 2018a) with a dramatical population growth forecasted in the coming years. The national economic model is based in the export of commodities such as palm oil, approach that has harmed the environment and undermined incentives to harvest staple crops in order to guarantee the food sovereignty. In this context, the IFAD, the Asian Development Bank, and the Government of Indonesia have launched the IPDMIP, a project aimed to increase the production of rice nationwide through irrigation. The project is based in four components: (1) strengthened policy and institutional frameworks for irrigated, (2) improved irrigation systems infrastructure, (3) improved irrigation systems management, and (4) agriculture increased irrigated agriculture incomes (IFAD, 2019).

The project was recently subject of evaluation by the IFAD, and the results has shown moderately satisfactory or unsatisfactory performance in key components such as planning, monitoring, and reporting, which should be already well stablished considering the strategic importance and the resources designated to it. This proposal is expected to address issues related these topics and consequently with the implementation of the project. To support the proposal, a review of the context of the country and the literature related to the project is presented as well.

2 INTRODUCTION

Food security has become a major concern around the world. Today 10.8 percent of the global population is in undernourishment condition¹ (World Bank, 2018a), fact that represent a huge challenge to the international community considering that the most affected countries do not have economic conditions to address this issue. Nowadays, food production is suffering the consequences of global market trends, in which developed and emerging economies are demanding differentiated products discouraging the production of staple crops such as maize, soybean and rice. In fact, a phenomenon known as "Westernization of Asian Diets" is putting pressure under the whole production system as very few products are requested, the population is growing, and therefore specific crops increase their production area with the environmental concerns this imply (Pingali, 2006). In an additional way, the use of some staple crops like soybean account as much as 90 percent for non-human feeding purposes (livestock feed 50 percent, and ethanol production 40 percent) in markets like the United States (Rueda & Lambin, 2014).

Considering the influence that markets have on global food production and their value chains, it is important that governments put in their agenda plans to ensure their food sovereignty by public policy or projects that target the most vulnerable households, fostering the rural development at the time that poor people gain economic and social capacities. In this regard, the public shall create minimum conditions, create tailored institutions, and be supportive in the process (Sen, 1999). For such purposes, with the constitution of the Sustainable Development Goals (SDG), food security is mainly represented by goal number 2 (zero hunger); however, other objectives like 1, 4, 5, 8, 9, 10, 13, 15, and 17 (UN, 2015) are a strong support and a compliment when taking the big picture of the world situation.

Historically, the poor have seen their opportunities undermined by lack of knowledge, economic capacities, and sociopolitical issues; therefore, this new paradigm where they are encouraged to work

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¹ Data as of 2016

and learn in order to jump out of this trap through the agri-business, will allow the humanity to reduce gaps and ensure food supply.

In the context above described, Indonesia has many particularities. This Southeast Asian country is the fourth most populated in the world with 267 million inhabitants, out of which 22.7 percent live in poverty (2017)² (World Bank, 2018a), it has the largest Muslim population, and the economy is led by the services (i.e. tourism), industry (i.e. manufacture), and agriculture (CIA, 2019). The latter has taken a strategic position in governments' plans as it has the potential the potential to feed the people and give employment in rural areas; nevertheless, since the mid-1980s, agriculture has developed around commodities such as oil palm, cocoa, coffee, and rubber with growing rates of production of 10 percent in some cases (ADB, 2006), highly driven by producers and buyers who control the key points of the value chains.

This policy has created concerns over the environment, because this kind of agriculture is extensive, and forests are being cut down, ecosystems and biodiversity are under increased risk, and the vulnerability to the climate change is getting worse. In addition, while commodities crops are expanding, staple crops like rice, a key component in the Indonesian diet, are under thread, so actions to improve production, plague control, sustainability, risk management, and others, are mandatory in achieving food security (ADB, 2006).

Aware of the situation and its risks, the IFAD, the Asian Development Bank, and the Government of Indonesia, have designed the Integrated Participatory Development and Management of Irrigation Project (IPDMIP), which is intended to beneficiate around 900.000 poor households and approximately 4.400.000 people all over Indonesia. The project through its four components (strengthened policy and institutional frameworks for irrigated agriculture, increased irrigated agriculture incomes, improved irrigation systems infrastructure, improved irrigation systems management, and increased irrigated agriculture incomes) aims to cover 16 provinces and 74 districts for a total area of 450.000 Ha with up to 719 irrigation schemes, where knowledge will be transmitted, financial access will be granted, and production is expected to increase while value chains and integration to markets becomes a reality to the poor (IFAD, 2015).

Starting from the above described, and with information that follows in this document, this proposals intends to address difficulties that the IPDMIP has suffered under its implementation based on the supervision mission held between November and December 2018 by the IFAD (IFAD, 2019). In the following chapters a light will be put on the Indonesian general context to understand the country's current situation in terms of environment, society, politics, and economics, to then make a bibliographic review that will allow this proposal, based on strong theory and research, to make recommendations to the project execution, which will be the work to be implemented in the field practicum. The proposal finalizes with an analysis of the risks associated to the project and the field practicum execution.

3 CONTEXTUAL INFORMATION

Indonesia is located in Southeastern Asia, it is composed by over 16.000 islands (The Jakarta Post, 2017) and has a population of 267 million inhabitants (World Bank, 2018a), out of which the 87 percent are Muslims (BPS, 2010a), distributed even in rural and urban areas and by gender, belonging to over 300 ethnic groups. It is located along the Equator line, which gives it a tropical weather all year

² Poverty considered here as people who live with under 5.5 USD/day. This can be also considered as vulnerability condition.

long with a dry season, and a rainy one. The government is a democratic republic chaired by a president, and under the laws of a constitution. Elections are held every 5 years, and the last one took place on April 17th, 2019, where Joko "Jokowi" Widodo won his second term.

Regarding the economics of Indonesia, the country has three major products: coal briquettes, palm oil, and petroleum gas which contribute to the 10 percent, 9.6 percent, and 4.8 percent of the total exports, respectively, making it a mainly exporter of commodities. Other commodities such as rubber, and manufactured products like cars and textiles also have a share of the exports. For the imports, the main product is refined petroleum, accounting as much as 9.2 percent of the total. Trade relations take place principally among other countries of the regions, with China, Singapore, Japan, India, Malaysia, and South Korean as the main ones. United States also have an important position (OEC, 2017).

Since the 1980s, Indonesian government has boosted economic growth through the commodities, good relations with key partners, education, manufacturing industry growth, private investment, and others, linked by a fiscal policy and a development plan that engage several sectors to a common end. An example of these policies are the unemployment rates: it has been reduced from 11.2 percent in 2005 to 5.1 percent in 2018 (World Bank, 2018b), which is a symptom of the good performance of the economy. Much of this result is due a liberalization of the economy, that started in mid-1980s, but took an special impulse in 2008 with the ASEAN Charter (Feridhanusetyawan & Pangestu, 2003), and in 2016 with an extended scope of industries that can invest in the country (Financial Times, 2016).

Continuing with the contextual information of Indonesia, it is a decentralized State. Since it institution in 2001, it has been argued about the real effects of decentralization in the society, politics, and economy. Nowadays, around a 53 percent of the expenditures of the Central Government are designated to subnational levels, this has increased the services delivery in the society, improving life conditions and creating a good formation basis to support national development further; however, even though social conditions are better than 20 years ago, politic capture by elites, cultural unevenness, and lack of capacities of local governments have undermined the purpose of this instrument. (World Bank, 2017). Indeed, the overall effect of decentralization is poor considering the big amounts of resources assigned (Pepinsky & Wihardja, 2001).

Another point worth to mention is the land use and tenure, which has a complex situation in the country and has been a major issue for the society and politics, with significant repercussions in the environment and the economy. It is allowed to have private property rights over the land, and no permission is required to trade these rights; however, there is an important number of titles with lack of registration due to complex procedures, time and costs (Gold & Zuckerman, 2015). It is particularly sensitive the situation between the indigenous communities and the Central Government due to the fact that the firsts are allowed to preserve their identity under the so called *Adat* law, which includes traditions, land use, norms, codes, etc.; on the other hand, this law "must not be contrary to the national interests of the state" (Szczepanski, 2002). This contradiction has led to disputes and conflicts for the land tenure, as the traditional ethnic groups have seen their rights violated by huge concessions that the governments has given to multinational companies in forest areas for agricultural projects such as oil palm, but also for mining and petroleum extraction. The situation has led the country to drop from 65 percent forest area of total land in 1990 to 50 percent in 2016, that means 282.000 square km less of forest (World Bank, 2018a).

In fact, environmental situation in Indonesia is critical. High deforestation rates, extreme weather events, and high pollution in main cities are big concerns for the SDG consecution. Events like the tsunami in 2004, floods in 2003 and 2007, fires of 2015, are a vivid expression of climate change and

lack of politics to face it. Actually, the commodities exports and the extractivism are big enemies of the environment in this country, for which resilient policies are needed, also projects that guarantee sustainable incomes being friendly with the environment, thus improving life conditions.

Conscious of this, multilateral organisms are promoting in emerging economies responsibility with the environment and projects to ensure the wellbeing of the society. IFAD in Indonesia has invested during the last 35 years more than 1 billion USD, targeting vulnerable areas in Indonesia. Up to date, more than 3.460.000 households have been impacted, boosting the agricultural sector that represents an 8.5 percent of the GDP (2016) of the country; also, it is the main source of income for 33 percent of the population, but 64 percent of the poor (IFAD, 2018).

The IPDMIP is strongly aligned whit national priorities, and the expected impact on 450.000 Ha, and 900.000 poor households under sustainability principles, and good governance approach is the edge of the arrow of the recent projects. The partnership among National Government, IFAD, and the Asian Development Bank, and the project's structure itself, is called to deliver needed services and address world concerns as food security, climate change, economic growth, and transparency. IPDMIP through technology, credit access, new institutions, and market integration will encourage people to change the traditional production systems for more efficient ones, achieving so a sustainable way for rural development.

4 CONCEPTUAL INFORMATION

In modern history, there have been three major events that have united the international community to cope with common interest goals: The Earth Summit in Rio de Janeiro in 1992, the Kyoto Protocol in 1997 (effective in 2005), and the Paris Agreement in 2015. These meetings permitted the participant countries to institute first the Millennium Goals (MG), and then the Sustainable Development Goals (SDG). Though the SDG, and the Paris Agreement are non-binding commitments, the approach of politics -nationals and internationals- has changed considerably. Today the discourse of leaders includes the sustainability components, and major efforts to address world problems are taking place. It is true that as of December 2018 there are still major concerns regarding the achievement of the 2030 agenda and more effort is needed; however, the compromised States are experiencing a transition, which is something to highlight (UN, 2018).

Particularly related to IPDMIP are objectives 1, no poverty; 2, zero hunger; 8, good jobs and economic growth; 10, reduced inequalities; 13, protect the planet; 15, life on land; and 17, partnerships for the goals. With the purpose to guarantee food sovereignty, improve life conditions of the poor and close gaps through better production methods, protecting the environment and taking into consideration multiple stakeholders, a holistic vision is mandatory, and no technocracy is allowable under this vision (Easterly, 2013). Worldwide undernourishment has grown, and Indonesia is experiencing the same trend: since 2014 to 2016 undernourished people has increased from 6.9 percent to 7.7 percent (World Bank, 2018a), which is worrying considering the potential that Indonesian lands have for food production.

Staple crops such as rice are called to deliver food in Indonesia; therefore, policies shall consider the big picture of the situation and enforce development plans accordingly. The increase of crops yields and productivity in rice production is an important objective for the Indonesian Government, so systems of rice intensification are being tested in rural areas (Takahashi & Barrett, 2014). The results of the investigation conducted by Takahashi and Barrett (2014) shows that incomes are increased with this method and some improved technology; nevertheless, final results are not satisfying as expected

because the intensification system requires more labor force, thus people are not able to perform other jobs; additionally, there are no governance schemes that could boost synergies and improve rice projects configuration.

Certainly, the focus only in production and yield is a weak approach when ensuring food availability while improving household incomes. It is a key component, but not the only one. World trends regarding food production, its uses, and the markets, are creating a new paradigm where it is not only about the availability of staple crops, but the destination they have and the ways to achieve it. In this regard, it is possible to see that developed economies (i.e. United States) used 46 percent of corn production to feed livestock and 25 percent to produce ethanol in 2007; parallelly, China imported 45 percent of the world production of soybean for pig feeding (Naylor & Falcon, 2008). Certainly, animals must be fed, and ethanol is necessary; nonetheless, industries and governments shall consider that 815 million people are starving in the world (UN, 2018). Another point worth to highlight is the fact that emerging economies are demanding better goods, which has turned to a homogenization of diets (Pingali, 2006). This claim has put under risk many staple crops because it is not any more profitable, for example, to harvest soybean in small areas when the cocoa price is 7 times higher³.

Acknowledging the above is crucial to understand that globalization has made value chains to turn to producer oriented, buyer oriented, or bilateral oligopolies, and the smallholder moves accordingly to the markets requests (Lee, Gereffi, & Beauvais, 2012). This situation has pros and cons for the food production, the poor incomes, and the governance in the territory. The integration to markets is a key component for the development of poor farmers, who are constrained by chain integrators (i.e. buyers or processors) to deliver better quality of the harvest and accurate times under more sustainable practices. Products with these schemes are highly appreciated in the markets; hence, better paid along the value chain because of their differentiation, which is a strong driver to quit producing staple crops for other high appreciated products for developed and emerging markets. In the other hand, those who are not able to cope with these exigencies exit the value chain to start a fierce battle on prices in traditional markets, which in several cases undermine incomes and perpetuate social and economic vulnerability (Lee, Gereffi, & Beauvais, 2012).

Certifications are well known mechanism to control the bottom of the value chain. This mark allows the buyer to ensure that is acquiring products under good social, economic fair, and environmentally friendly practices, characteristics that are becoming a standard in many industries. This mechanism promotes governance schemes under the compliance of regulations that go beyond the ones mandatory in the host country, meaning that risks shall be managed upstream in the chain in order to keep reputation clean and be well known for corporate responsibility policies (Rueda, Garrett, & Lambin, 2017). The stringency of the instruments used to enforce the private governance oriented to production in territories may vary according to the end market or even the national and international interests, fact that shall be considered when a big project is in mind of leaders because environment and traditions must be kept in mind to deliver a sustainable value to the communities.

Indonesia since the 1990s has strongly propelled the expansion of the oil palm crops, becoming the producer of the 55 percent of palm oil worldwide in 2016. This position has allowed the country to improve the living conditions of thousands of smallholders, actually, the 40 percent of the total production is on hand of smallholder farmers (Bou Dib, Alamsyah, & Qaim, 2018). Even though this development process has been positive to many, it is important to say that the environmental consequences are severe: oil palm crops in Indonesia have destroyed 282.000 square km of forest

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³ Data compared between cocoa and soybean meal from the web site https://markets.businessinsider.com/commodities. Retrieved on March 20th, 2019

with mining as aforementioned. Indonesia has stronger incentives for crops expansion instead of intensification to reduce area; additionally, timber can be harvested and sold to start a plantation, issue that reinforces the forest cutdown (Varkkey, Tyson, & Al Banna, 2018). In this order of ideas, policy, governance schemes and projects shall consider holistically the territory where they will be executed or applied, as severe changes in land use put under stress ecosystems, hydrological cycles and biodiversity, affecting in the end the sustainability of any current and ahead projects.

By 2030 it is expected that the population of Indonesia reaches the 296 million people (IMF, 2017), which means a huge defy in terms of land use, environmental policy, and food security. In this regard, it is necessary to impulse better production techniques, environmentally friendly, with strong institutional basis to give people the means and capacities for a sustainable production of staple crops.

The IPDMIP is centered in the production of rice to ensure food sovereignty (IFAD, 2015). 30 million more people in the country within 11 years should mean a dramatical increase in production; however, considering that the basis of the economy are the commodities exports, and that international pressure on forest policy is becoming a major issue to address, it is necessary intensify the land use instead of an expansion in crop area. Irrigation shows up as a solution because permits the farmer to harvest in drought season. Initially 450.000 Ha, 719 irrigation schemes 900.000 smallholders, and 4.4 million people are targeted to be empowered when this project finalizes; though, if well scaled and replicated, the overall impact could be up to 6 million households and 24 million people (IFAD, 2015).

Irrigation in Asia is an important machine to increase food production; nevertheless, it has been accompanied with environmental and management problems. Easter (2000) argues that there are 5 major problems with irrigation schemes in countries like Indonesia: (1) lack of institutional framework and user participation in water management, (2) economic incentives on water use are poor, (3) no account for the environmental impacts when designing and managing the irrigation schemes, (4) poor integration between irrigation improvements and agricultural practices, and (5) improvement in water investment decisions.

In order to improve these deficiencies, the same author proposes to empower communities over the irrigation districts, create efficient agencies, or specific institutions in which the users have strong power of decision regarding the operation and the utilization of the resource like water user's associations (WUA); additionally, this shall be accompanied with knowledge transmission and technical capacitation, understanding that the WUA shall not be only a prerequisite for the irrigation district to be built, but for continuous improvement, functioning, and management. For the second and third points, water use right shall be accompanied by a tax so the people acknowledge the value of the resource, and the design of the irrigation project must have a deep risk analysis, serious hydrology studies, and an approach with basins to accumulate water during rainy seasons instead of ground-water pumping systems (Easter, 2000)

For the two final points it is important to understand that irrigation schemes are built to support agricultural practices, and agriculture is expected to satisfy food demand and/or markets. This linkage should be considered under the eyes of the value chain to avoid shortages of water or overdesigned schemes; therefore, a proper planning is necessary, also it is the full involvement of the community in the project for the appropriation of it in the long term (Easter, 2000). After this analysis, Easter (2000) comes to an important conclusion: "the important change is that managers must be responsible to users and not to the irrigation agency", meaning that the project is for the communities and they shall have full immersion on it, certainly with the support of Government agencies and ministries with their technical capacity.

Components outlined in IPDMIP seem to cope with the issues above stated; however, it is during the execution of the project itself where it will be possible to address them and take the right decisions step by step. Indonesia has shown to the world that its will to deliver progress and development to the people is strong, however, tradeoffs appear in the big picture and balances are needed. Up to now, the environment and the *Adat* communities (among other actors) has suffered with the decisions of the Central Government; nevertheless, transitions are starting to take place in order to meet the SDG, and irrigation schemes well performed show up as a solution for hunger and deliver better incomes to reduce poverty and inequalities. IFAD, the ADB, and the Government of Indonesia are in the position to take the IPDMIP to a good end and help people to create capacities that support the consecution of the SDG, national interests, and their own necessities.

5 FIELD PRACTICUM RESEARCH PROPOSAL

After the literature review, a deep analysis of the supervision report of the IFAD to the IPDMIP progress as of December 2018 (IFAD, 2019), and the comments received to the first version of this proposal (dated March 25th, 2019, see exhibit 1), the proposal will be focused on component 4, which is shared between IFAD and the NPIU⁴, and is intended to enhance the planning and the monitoring & reporting for the project.

It is important to mention that the four components of the project (see figure 1) shall be integrated by a resourceful knowledge management system, in which the information flows freely to facilitate the functioning of the project; additionally, an intersectoral approach between ministries and agencies is mandatory to avoid bureaucracy delays and constraints that unilateral decisions might cause. In this concern, even when the proposal is targeted to deliver solutions to the component 4, the project cannot be shred apart, and information and the development of certain activities may be necessary when carrying out the planning system.

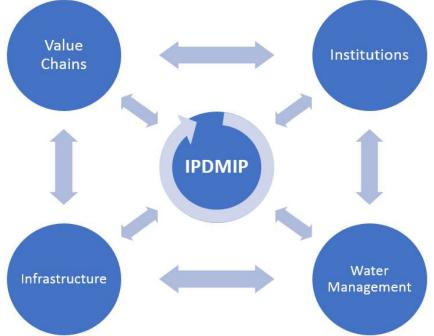


Figure 1: Integration of diverse components of the IPDMIP. Source: self-elaboration based on (IFAD, 2015)

⁴ National Project Implementation Unit

5.1 PLANNING SYSTEM: Schedule and Monitoring & Reporting

As stated in the appraisal, "the NPIU needs to ensure an adequate planning and phasing of the value chain" (IFAD, 2019). To cope with an adequate planning, it is appropriate to develop a general schedule that can be adapted to all the irrigation schemes, also it is necessary to create progress tables to feed the schedule with dates and progress status, and forms for data collection in the different provinces and districts. It is important to mention that it would be desirable to have a schedule for every single irrigation scheme; however, as this can be hard in terms of manageability, it is possible to find other solutions like schedules by provinces/districts to still have enough accuracy in the measurement of the progress and the record of the activities.

The schedule proposed here would have a level 3 of detail⁵ with up to 200 activities. It shall include the inputs required from other components and a logic sequence among the activities of the component 4. The scheduling will be done in Microsoft Project or Primavera P6 Project Planning, both of which can automatically calculate the progress; however, it is recommendable to develop progress tables for functionality, because everybody could see the information in excel without having the license of these planning software. These tables could actually have a major detail if necessary (400 or 500 activities – Level 4 schedule⁶) so the tracking of all activities could be guaranteed.

Additional to the aforementioned points, it is important to develop design formats for the data collection, so people in the districts and provinces can fulfil the form in an easy way that serve the project to collect data on a monthly basis to update the schedule and the control tables.

As the main objective of this practicum will be to have a robust planning system and an effective project control, it is initially necessary to collect all the information currently available in terms of planning; after this, it will be required to establish a work breakdown structure (WBS), which will organize the categories and attributes of the activities (i.e. geographical area, subcomponent, etc.). Subsequently to this setup, it will be possible to determine the activities required for each subcomponent, and the inputs from other components. For such purpose, workshops will take place to guarantee from the experts and people directly involved in the execution of the component a complete scope of activities. The outline of the activities will be supported by field visits as well, because it is important to have sensibility of the context when scheduling.

Further workshops will take place to link the activities and develop the logic behind the project execution, determine critical and subcritical paths, and forecast potential risks and focus points. When the schedule is finalized, the progress tables can be finalized accordingly, and the information collection forms designed to feed the schedule and the tables. Figure 2 shows a preliminary plan for the execution of this proposal. It might have changes when performing the activities in field. Table 1, instead, shows the objectives, methods and potential problems at the practicum.

A key point in this proposal and the execution and success of the overall project will be the establishment of the knowledge centers. Currently the provinces and the districts have lack of capacities to face all the requirements that the execution of the project represents, additionally, the allocation of resources shall be granted, at least in the beginning, by the ministries and the agencies, promoting the knowledge sharing and capacities creation in the rural zones of Indonesia. Again, the full involvement of the people in the conception, execution, and run of the project is a key success factor; therefore, institutions need to be created to support the knowledge sharing, also it is important

9

⁵ Level 3 means that major activities will be listed and coherently linked according to the logic of the execution of component 4.

⁶ Level 4 refers to all the activities to be carried out in the project

that smallholders understand how the irrigation schemes work so they can appropriate the system while the agencies and the Government ease the path to the market integration, the access to financial services and enhance the productivity.

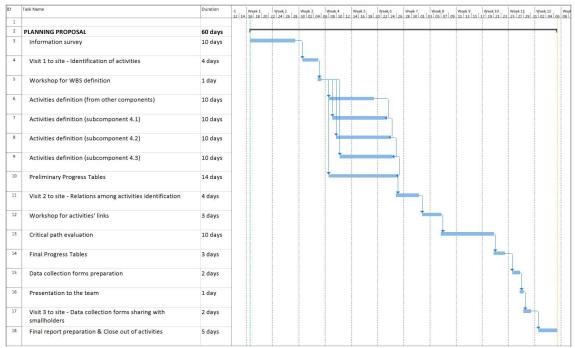


Figure 2. Execution plan for the planning system proposal

	Objectives	Problems to Address	Methods to Employ	Analysis to be Carried out	Projected Results
General Objective	To develop the schedule and the progress tables for the project	- Lack of information - Software issues - Lack of feedback - Expansion plan	- Information Survey - Workshops - Visits to site - Critical path	With a concrete plan, a schedule can be developed. With the schedule and the progress tables, an accurate control and reporting of the project will be possible	- A schedule that reflects the planning of the project - Progress tables for control, follow up, and reporting
Specific Objective 1	Workshop activities	- No availability of key people	- Conducted round table discussions	Dynamics and relations of the different components.	Information gathered for the developing of the schedule and the workload
Specific Objective 2	Visit to site	- Logistics - No companion	Talks with people involved in the project	Dynamics among different actors in field.	Information gathered for the development of the schedule and the data collection forms
Specific Objective 3	Schedule	- Lack of information - Software issues - Lack of feedback - Manageability of the information	- Information Survey - Workshops - Visits to site - Critical path	The visits to site will allow to have sensibility regarding the activities and the links among them. With this notion and the workshops, it will be posible to list the activities and link them.	- A schedule with up to 200 activities and critical path that reflects the planning of the component 4.
Specific Objective 4	Progress tables	- Lack of information - Lack of feedback	- Information Survey - Workshops - Visits to site	From the schedule it will be possible to create this control tables that will permit monitor and report the project.	- Progress tables by subcomponents for control, monitoring and reporting.
Specific Objective 5	Data collection forms	- Lack of information - Translation issues - Lack of feedback	- Information Survey - Workshops - Visits to site	Having developed the schedule and the progress tables, it will be necessary to feed them; therefore, these forms will be important for the data collection directly from the smallholders.	Forms easy to understand by the smallholders for the data collection that will help with the monitoring of the project.

Table 1: Objectives in Planning proposal

6 RISKS IN THE EXECUTION OF THE PRACTICUM

This section shows the risks associated with the field practicum. The matrix below considers the frequency of the event and the severity of it to assign a grade, where 1 is the minimum, and 5 the maximum.

		Severity					
		1	2	3	4	5	
	1					- Transport accident (air) - Tsunami	
F	2	- Accidents in the office	- Domestic animals attack	- Accidents in field	- Earthquake	- Terrorist attack	
e q u e n	3		- Social and political manifestations			- Dangerous animals attacks	
у	4			- Diseases	- Transport accident (land)	- Extreme climate events	
	5		- Robbery				
* Ris	* Risk here mentioned are subject to the author perception.						

Other issues that might affect the development of the practicum and the expected results are associated to the language and cultural differences; however, the author is opened to any change and is receptive with these facts.

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8 Exhibits

8.1 Exhibit 1: Comments to proposal sent on March 25th, 2019

